

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/047,031	BRUEKERS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	V. Paul Harper	2654	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/25/2005.
2. ☒ The allowed claim(s) is/are 1-6,8-11,13-20,22,23.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

***Reasons for Allowance***

1. Claims 1-6, 8-11, 13-20, 22 and 23 are allowed.

Regarding **claims 1 and 17**, it is noted that the closest prior art of record, Lin, C. Y, ("Watermarking and Digital Signature Techniques for Multimedia Authentication and Copyright Protection" PhD Thesis, Columbia University, Graduate School of Arts and Sciences, 2000), teaches the encryption of the feature codes and the hash values of a sequence of pictures, but Lin does not teach determining a reliability of a hash bit and identifying a degree of similarity between a first robust feature and a second robust feature. Thus, independent claims 1 and 17 are allowable over the prior art of record because the cited prior art alone or in combination, does not fairly suggest or disclose the claimed combination of features.

Regarding **claim 22**, it is noted that the closest prior art of record, Lin, teaches the encryption of the feature codes and the hash values of a sequence of pictures, but Lin does not teach transforming the information signal within a time interval into disjoint bands, calculating a property of the signal in each of the bands, comparing the properties in the bands with respective thresholds, and representing the results of said comparisons by respective bits of the hash value. Thus, independent claim 22 is allowable over the prior art of record because the cited prior art alone or in combination, does not fairly suggest or disclose the claimed combination of features.

Regarding **claim 23**, it is noted that the closest prior art of record, Lin, teaches the encryption of the feature codes and the hash values of a sequence of pictures, but Lin does not teach the sequence of operations indicated in claim 23:

- a) calculating from the input signal a first block of subsequent hash values corresponding to a first time interval;
- b) calculating from the output signal a second block of subsequent hash values corresponding to a second time interval, at least partially overlapping said first interval;
- c) selecting one hash value from one of said first and second blocks of hash values;
- d) searching for said hash value in the other one of said first and second blocks of hash values;
- e) calculating a difference between the first and second blocks of hash values in which the hash value found in step (d) has the same position as the selected hash value in the other one of said first and second blocks;
- f) repeating steps (c)-(e) for a further selected hash value until said difference is lower than a predetermined threshold or until the number of hash values to be selected is lower than a predetermined threshold;
- g) concluding to a correct operation of said signal transformation if the difference is lower than a predetermined threshold or concluding to a false operation of said signal transformation if the number of hash values to be selected is lower than a predetermined threshold.

Thus, independent claim 23 is allowable over the prior art of record because the cited prior art alone or in combination, does not fairly suggest or disclose the claimed combination of features.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement for Reasons of Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Paul Harper whose telephone number is (571) 272-7605. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2654

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8/31/2005

V. Paul Harper  
Patent Examiner  
Art Unit 2654



**RICHEMOND DORVIL**  
**SUPERVISORY PATENT EXAMINER**